

# **ICC MEN'S T20 WORLD CUP 2022**

## **ANALYSIS DASHBOARD**

### **A PROJECT REPORT**

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*For*

### **20ADC33 DATA ANALYSIS**

**DEPARTMENT OF ARTIFICIAL INTELLIGENCE**



**KONGU ENGINEERING COLLEGE  
(Autonomous)**

**PERUNDURAI ERODE – 638 060**

**DECEMBER 2022**

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**20ADC33 – Data Analysis Project Report**

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Submitted for the continuous Assessment viva voice examination held on \_\_\_\_\_

**EXAMINER I**

**EXAMINER II**

## **ABSTRACT**

The development of statistical modelling in sports has made it clear that accurately predicting a game's outcome is a basic challenge. One of the most widely played team sports worldwide is cricket. From the perspective of team composition, this analysis set out to forecast the result of an ICC Men's world cup 2022 in a dashboard approach using power bi. According to this research, a distinguishing characteristic for picking the winner is the relative team strength between the contending clubs.

The methodology, which is based on analyzing individual player batting and bowling performances, boils down to modelling the team strength. To model a player, it is necessary to take into account both his recent performances and career data. In order to forecast the outcome of, player independent elements have also been studied. For this analysis ICC MENS WORLD CUP T20 dataset is collected and for visualization and creation of charts POWER BI is used.

For chart creation the required columns are selected and need to be pre-processed by using power query editor. Then need to select the appropriate charts for visualization. Finally, all the charts must be displayed in DASHBOARD for easy visualization.

For analysis of the entire performance of all teams, batsman, bowlers it is needed to pre-process the dataset, then select the require columns and create visuals. The main problem is that it is very necessary to display the important information of the entire season “2022” in a single dashboard as interactive one and need to be understandable by everyone especially.

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# CHAPTER 1

## INTRODUCTION

### 1.1 INTRODUCTION

- ❖ The dataset that is given for analysis and visualize it using dashboard were “ICC MEN’S T20 WORLD CUP 2022”. The dataset is collected from Kaggle and it contains mostly all the attributes essential for creating visuals and dash boards. The dataset is available in comma separated values (csv) format.
- ❖ We can directly download data’s from Kaggle and import them into power bi file. A unified, scalable platform for self-service and business intelligence in enterprises is called Power BI.
- ❖ Connect to any data, visualize it, and easily integrate the visualisations into the daily-use apps you use. Then the collected datas are subjected for pre-processing. In data preprocessing it involves filtering, cleansing, de-duplicating, validating and finally authenticating data.
- ❖ Formatting the data into tables or joined tables to match target schema. Performing calculations, translations, summarizations, changing rows and columns data type, change null values, apply DAX measures, etc.
- ❖ Power BI offers desktop-based Power BI Desktop and cloud-based BI (business intelligence) services, together referred to as "Power BI Services".
- ❖ It delivers interactive dashboards, data discovery, and data preparation tools for data warehouses. On its Azure cloud platform, Microsoft introduced a new service called Power BI Embedded in March 2016. The product's ability to load customized visuals is one of its key differentiators.
- ❖ Power BI, a business analytics tool from Microsoft, offers interactive data visualization BI features that let users see and share information throughout their organization. By using data interactively and visualising it, Power BI offers insight data. Utilize the data models to produce reports and visuals.
- ❖ So in ICC MENS T20 WORLD CUP 2022 there are 14 teams participating and battle together and one team will win the trophy.
- ❖ And also all the matches will get reviewed by Umpire Decision Review system do that the final results of the matches will be finalized and winners will be announced respectively.
- ❖ For this analysis dataset is collected from Kaggle and loaded in the system for further analysis and modeling of the datas available.
- ❖ Then datas are loaded into Power Bi for analyzing and creating charts as required.
- ❖ And finally load them into Power Bi services to create dashboard with new name.

## 1.2 DATA COLLECTION

The process of gathering, measuring, and analyzing precise insights for research using accepted, established methods is known as data collection. A researcher can assess their hypothesis using the data that they have gathered. No of the subject of study, gathering data is typically the first and most crucial phase in the research process. Depending on the type of data needed, different disciplines of research require different approaches to data gathering.

### Dataset

The dataset is collected from Kaggle.

The dataset contains 4 tables namely

- “summary.csv”
  - NUMBER OF COLUMNS = 45
  - NUMBER OF ROWS = 45 (Because total number of matches is 45 only)
- “details.csv”
  - NUMBER OF COLUMNS = 44
  - NUMBER OF ROWS = 999+
- “battingcard.csv”,
  - NUMBER OF COLUMNS = 24
  - NUMBER OF ROWS = 78
- “bowlingcard.csv” respectively.
  - NUMBER OF COLUMNS = 23
  - NUMBER OF ROWS = 183

The ICC Men's T20 World Cup 2022, which takes place in Australia from mid-October to mid-November, is included in this data collection. For fans of cricket and sport analysis, this will offer yet another data set to investigate. Throughout the event.

- ❖ <https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=summary.csv>
- ❖ <https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=details.csv>
- ❖ [https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=batting\\_card.csv](https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=batting_card.csv)
- ❖ [https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=bowling\\_card.csv](https://www.kaggle.com/datasets/rajsengo/icc-mens-t20-world-cup?select=bowling_card.csv)

### **1.3 Problem Statement**

The analysis of cricket matches is very difficult because it contains huge amount of information about matches so it is very important to visualize the necessary details about the matches clearly and simply to the public. Many uneducated people are also very interested in watching cricket so visualizing the details will help them to analyze the match easily. The main pain point is that it is needed to visualize or to provide the information about the live matches as such going on live and for each ball it is mandatory to update the score details. So it is also very difficult to visualize the information along with live and also displaying the match summary, early matches and current match comparisons, details of each players, etc. In the modern world people are very busy with their duties so they don't have enough time to look into the entertainment especially looking into cricket score and analysis takes more time so it is necessary to summarize all the events that happened in a cricket needed to be visualized attractively and understand to everyone easily.

### **1.4 BUSINESS OBJECTIVE**

1. To compare and analyse the summary of each match of ICC MENS WORLD CUP 2022 and visualize them using POWER BI.
2. To analyse the better performance of each team in entire season of 2022.
3. To compare the teams that are going to battle in each match.
4. To analyse the better performing batsman and bowler of entire season and to reward them.
5. To analyse the better performing batsman of each match to provide "MAN OF THE MATCH".

## CHAPTER 2

### DATA PREPARATION AND MODELING

#### 2.1 Data Cleaning

Data cleaning is the process of removing errors from the data by filling in missing values, smearing noisy data, analyzing and removing outliers, and smoothing noisy data. Data at various degrees of detail may occasionally diverge from what is needed Missing Values – Appropriate values are substituted for missing values. The strategies listed below

- ✓ When a tuple contains many attributes with empty values, it is
- ✓ Disregarded.
- ✓ For the missing value, the values are manually filled in.
- ✓ The values may be filled with the same global constant.
- ✓ The attribute mean can replace the values that are absent.
- ✓ The most likely value can be used to fill in the blanks.

#### 2.2 Data Transformation

1. The process of changing data from one format or structure to another is known as data transformation. It is a crucial component of the majority of data management and integration jobs, including
2. application **integration**, data **wrangling**, data **warehousing**, and data **integration**. Depending on the required modifications to the data between the source (initial data) and the destination (final data), data transformation can be straightforward or difficult. The process of data transformation often involves both manual and automated procedures.
3. Depending on the format, structure, complexity, and amount of the data being changed, a broad range of tools and technologies may be employed. For decades, corporations have benefited greatly from using conventional data transformation techniques.
4. Since the development of the various tools and technologies (data profiling, data visualization, data purification, data integration, etc.), most (if not all) businesses now transform massive volumes of data that feed internal and external applications, data warehouses, and other data repositories.
5. So, Data Transformation is a required process inorder to preprocess the loaded data set as per our requirement and apply those changes for future use. It is while Data Analysis and creating DAX functions of those relations respectively.

## Procedure

### STEP 1

1. Go to HOME tab in ribbon.
2. Click on GET DATA and select data from the system or from any platform where it resides.
3. Here select 4 different tables of CSV format from system and load it to POWER BI.

Table: batting\_card (263 rows)

Update available (click to download)

Figure 2.1 Select Dataset

### STEP 2

1. From the ribbon of HOME tab select TRANSFORM DATA inorder to clean and transform data.

Table: batting\_card (263 rows)

Update available (click to download)

Figure 2.2 Transform Data

### STEP 3

- After choosing transforming data all the loaded tables and opened in POWER QUERY EDITOR, so that we can make any changes as per our wish.
- Then open the SUMMARY table and replace the values which are blank.
- Then try to add NULL values to the rows in which the matches are cancelled due to some reasons.

Figure 2.3 Power Query Editor

### STEP 4

- Then on same SUMMARY table apply REPLACE VALUES.
- In this select any column that need new values to be replaced for further processing.

Figure 2.4 Replace Value

## STEP 5

1. Now select BATTING CARD table to clean it.
2. Here applies change datatype so click the column that needed to change the datatype.
3. Select “Minutes” column then change its datatype to minutes.

The screenshot shows the Power Query Editor interface with a red border around the main workspace. In the center, a 'Change Column Type' dialog box is open, overlaid on a table of cricket statistics. The table has columns for runs, ballsFaced, minutes, fours, sixes, strikeRate, and captain. The 'minutes' column is currently selected. The dialog box contains the message: 'The selected column has an existing type conversion. Would you like to replace the existing conversion, or preserve the existing conversion and add the new conversion as a separate step?'. It has three buttons: 'Replace current', 'Add new step', and 'Cancel'. To the right of the table, the 'APPLIED STEPS' pane shows a single step named 'Changed Type'. The status bar at the bottom indicates '24 COLUMNS, 263 ROWS' and 'Column profiling based on top 1000 rows'.

Figure 2.5 Change Column Type

## STEP 6

1. Now select SUMMARY table inorder to apply SPLIT COLUMN.
2. It is needed to split a particular column so that data can be accessed easily.
3. Select column to be splited, RIGHT CLICK the column.
4. Drop down the list displays and select SPLIT COLUMN.
5. Then select split column by DELIMITER.
6. Similarly, we can also split column by using delimiters such as comma, colon, semi colon, hyphen, etc...
7. Now split the column “DISCRIPTION” from SUMMARY table into three different columns by using delimiter “comma”.
8. Then rename the newly created columns as “description1”, “MATCH PLACE AT” and “DATE OF MATCH”.

The screenshot shows the Power Query Editor interface with a red border around the main workspace. The left sidebar lists 'Queries [9]' and 'Other Queries [8]'. The main area displays a table with columns: short\_name, description.1, description.2, home\_team, away\_team, and toss\_winner. A tooltip indicates the formula: `= Table.SplitColumn(#"Replaced Value2", "description", Splitter.SplitTextByDelimiter("", QuoteStyle.Csv), {"description.1", "description.2"})`. The 'APPLIED STEPS' pane on the right shows the 'Split Column by Delimiter' step, which was used to split the 'description' column into two parts. The preview at the bottom right shows the transformed data.

Figure 2.6 Split Column Selection

This screenshot shows the 'Split Column by Delimiter' dialog box in the foreground, overlaid on the Power Query Editor. The dialog allows specifying the delimiter ('Comma') and selecting the split type ('Each occurrence of the delimiter'). The background shows the same table structure as Figure 2.6, with the 'APPLIED STEPS' pane visible on the right. The preview at the bottom right shows the transformed data.

Figure 2.7 Split Column by Delimiter

## STEP 7

1. Select SUMMARY table to change data type.
2. Select DATE OF MATCH and change datatype from TEXT to DATA.

47 COLUMNS, 45 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 11:28

Figure 2.8 Datatype Change

## STEP 8

1. Select DETAILS table and replace values.
2. Replace 0 to NULL values.

44 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 23:27

Figure 2.9 Details – Replace Value

**STEP 9**

1. Select BATTING CARD table to make changes.
2. Select column commentary, right click to remove ERRORS.
3. Then in same table select ROW named blank and REMOVE it.

The screenshot shows the Power Query Editor interface with the 'commentary' column selected. A context menu is open over a row containing the value '(blank)'. The menu includes options like 'Sort Ascending', 'Sort Descending', 'Clear Sort', 'Clear Filter', 'Remove Empty', and 'Text Filters'. A search bar at the top of the menu is set to '(Select All)' and contains the text '(blank)'. The 'APPLIED STEPS' pane on the right shows a step named 'Removed Errors'.

Figure 2.10 Remove Error

**2.3.Data Modeling**

Data modelling is one of the aspects used in BI tools to establish relationships between various data sources. When using several data sources, you can construct engaging data visualizations by defining the relationships between them.

It can create unique calculations on the already-existing tables using the modelling capability, and these columns can then be easily displayed in Power BI visualizations. This enables companies to create new measures and perform unique calculations for them.

Data Modeling is used to create relationship among the different tables inorder to access the data of different tables to visualize them. There are four types of relations that we can create as,

- ❖ One to One relationship
- ❖ One to Many relationship
- ❖ Many to One relationship
- ❖ Many to Many relationship

## Procedure

### STEP 1:

1. Here start merging of columns to create relationship.
2. Select “Summary” and “Batting\_card” tables then merge them by using common attribute called as “ID” of both tables which act as primary key.

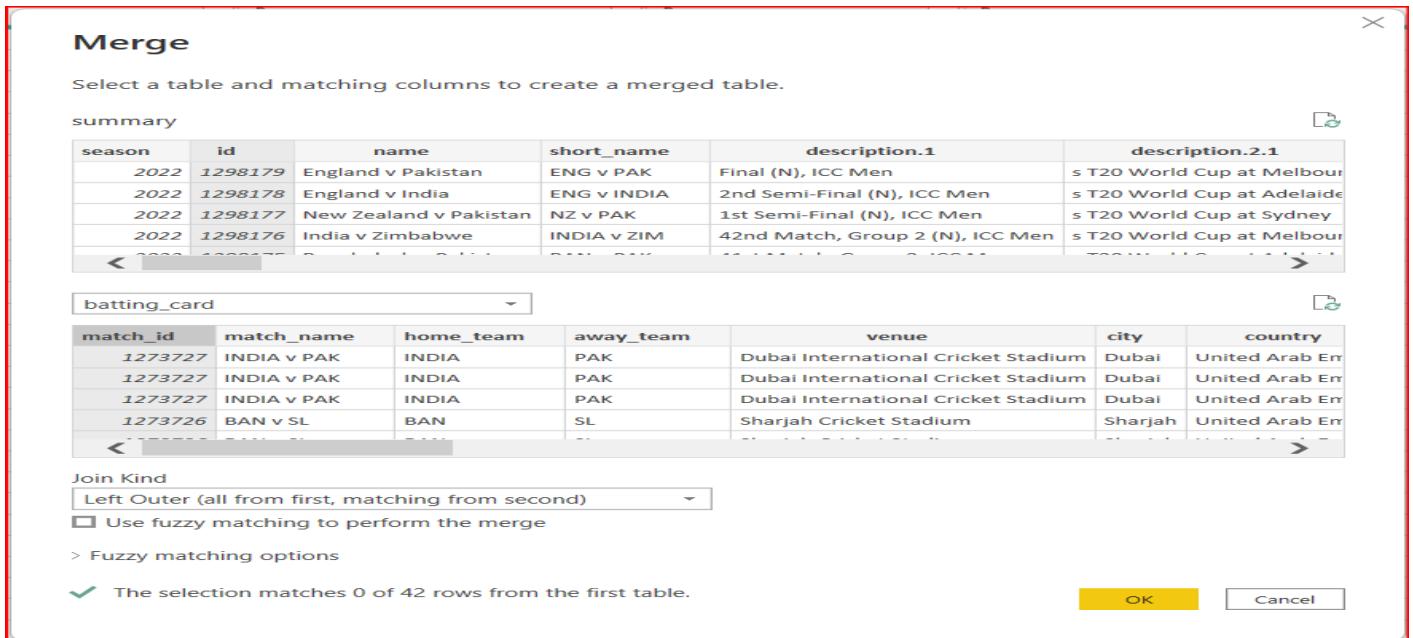


Figure 2.11 Merge Tables “SUMMARY” and “BATTING”

### STEP 2

1. Similarly merge “batting\_card” and “Details” tables.
2. Here “match\_id” act as a common element and primary key.

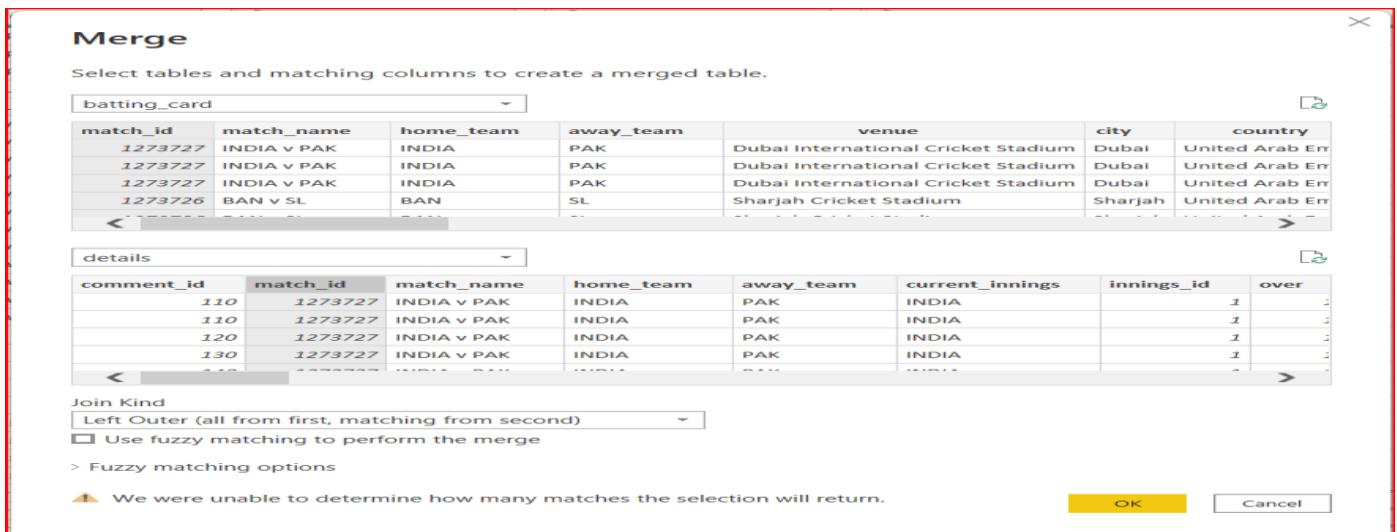


Figure 2.12 Merge Tables “Batting\_card” and “Details”

### STEP 3

1. Select the tables “details” and “summary” to merge them.
2. Merge them by choosing match\_id and season attributes from both tables.

Figure 2.13 Merge tables “DETAILS” and “SUMMARY”

### STEP 4

1. After applying changes and merging tables select “close” and “apply” from ribbon of Power query Edito.
2. At Power bi desktop it displays table as visualised below Figure 2.3.4.

Figure 2.14 Power Bi desktop after transformation.

## 2.4 DAX (Data Analysis Expressions)

DAX is a special function that contains collection of operators, formulae, functions, expressions to calculate, process and execute the values from existing table and return one or more values as the result of respective functions. So, it is used to create new information from the datas that already exist in the table while creating model and analyzing it.

DAX measured of Power Bi are special functions or Programming Language that are used to create the following such as

- Calculated columns
- New measures
- Customized tables
- Quick measures
- Implement Time Intelligence

There exist many formulae for creating the new columns, measures. The time intelligence are special functions the are applicable only for the Time-based columns only.

So, from these formulae and expression we can find results like maximum, minimum, average, count, sum, filters, difference, total, variance, percentage, addition, subtraction, division, etc.....

### STEP 1

1. Creating Quick measure for table Summary.
2. Click Quick measure at ribbon and a menu pop up
3. Measure named “COUNT\_VENUE” by choosing “Venue name” and click on ok.

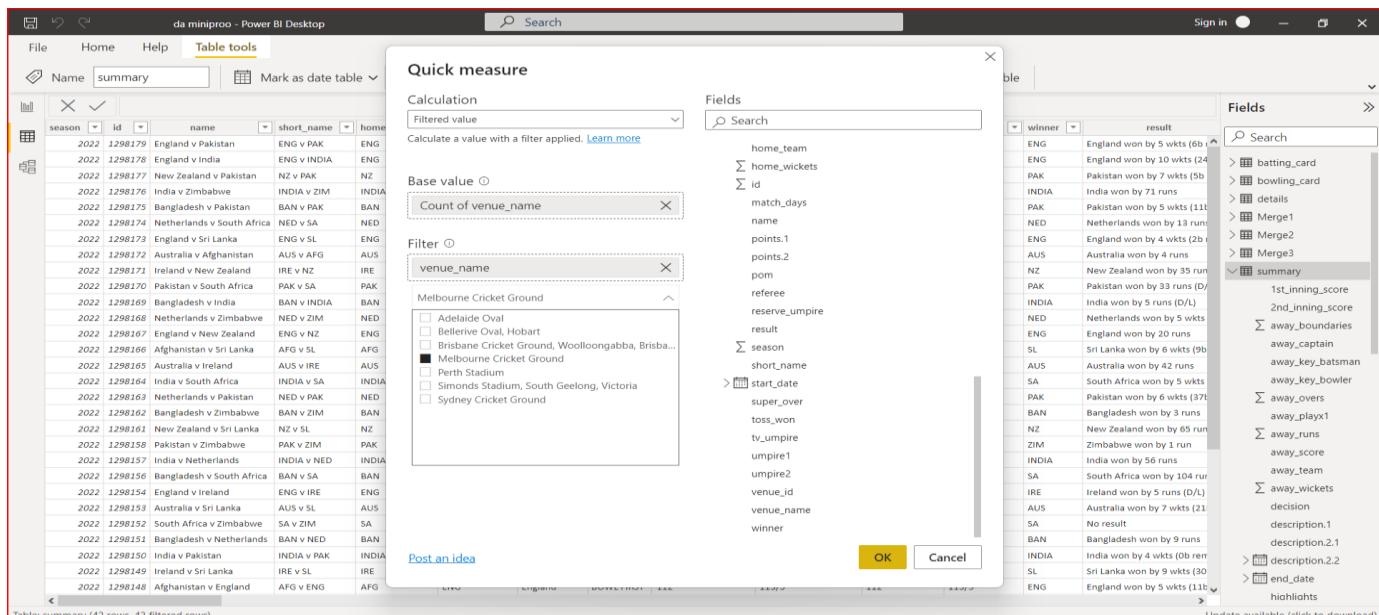


Figure 2.15 Quick measure “COUNT VENUE”

## STEP 2

1. Create calculated column Summary table
2. Select table, "Right click" it then selects "New column".
3. Apply formulae for new table in the given box with new name click enter

Formula for new column:

First max per fullName =

MAXX (KEEPFILTERS (VALUES ('batting\_card'[fullName])),

CALCULATE (MIN ('batting\_card'[running Score])))

The screenshot shows the Power BI Desktop interface with the 'Column tools' ribbon tab selected. A new column named 'First max per fullName' is being created, as indicated by the formula in the formula bar: `MAXX (KEEPFILTERS (VALUES ('batting_card'[fullName])), CALCULATE (MIN ('batting_card'[running Score])))`. The Fields pane on the right shows various measures and summaries, including '1st\_inning\_score...', '2nd\_inning\_score...', 'away\_boundaries', 'away\_captain', 'away\_key\_batsman', 'away\_key\_bowler', 'away\_playx1', 'away\_runs', 'away\_score wicket...', 'away\_score.1', 'away\_team', 'away\_wicket...', 'COUNT\_ALLMAT...', and 'count\_id'. The status bar at the bottom right shows the date as 26-01-2023.

Figure 2.16 New column creation

## STEP 3

1. Create new measure for table "bowling\_card" table.
2. Create new measure called as "WHEATHER NOBALL"
3. Now right click "bowling\_card" table and choose new measure to create it.
4. Apply the required formulae with new name and click enter.

Formula for measure:

WHATHERNOBALL =

`CALCULATE(COUNTA('details'[bowler2_name]), 'details'[isNoball] IN {TRUE})`

Table: details (3,533 rows) Column: WHATHERNOBALL (0 distinct values)

Update available (click to download)

Figure 2.17 New Measure created

**STEP 4**

1. Now create relationships for the various tables that we used.
2. From left ribbon select MODEL to create relationships.
3. All the tables of model will be displayed here.
4. For each table use Primary key or foreign key to create relationships either one to one, one to many, many to one, many to many respectively.

Figure 2.18 Relationship creation

## **STEP 5**

1. Select all the tables available in the model.
  2. For each table select primary key and merge it with another table to create relationships.
  3. For example, “match id” from “summary” and similarly “match id” from “details” table which will create the one-to-one relationship.
  4. Similarly create as many relations as required.
  5. Finally view it at MODEL and also view it like below image 2.3.5.

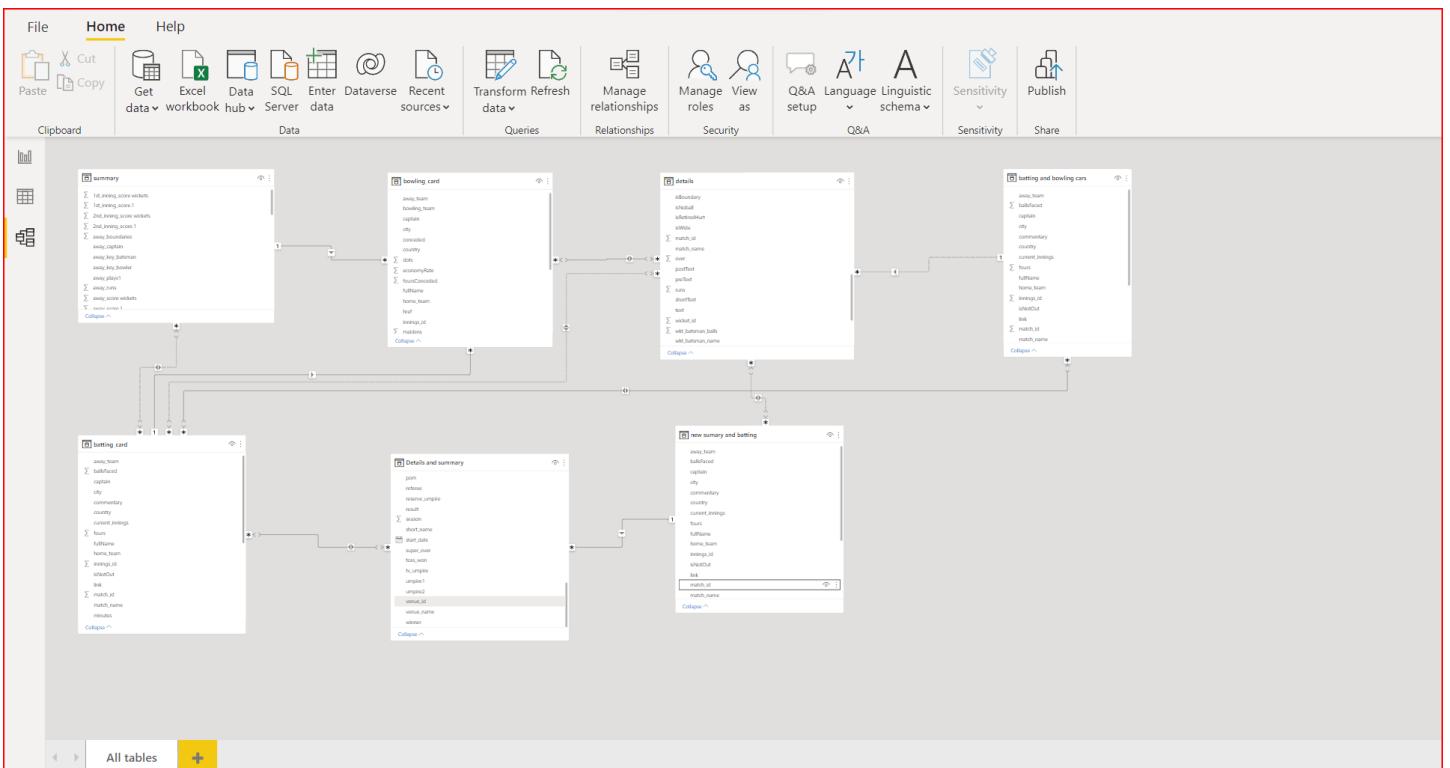


Figure 2.19 RELATIONSHIP VIEW

## **STEP 6**

1. Creating calculated column for table “batting card”.
  2. Select “batting card” right click it and select new column and then apply the following formula.

Count of strike Rate difference from INDIA v PAK = VAR

\_\_BASELINE\_VALU= CALCULATE (COUNTA ('batting\_card'[strikeRate]),

'details'[match\_name] IN {"INDIA v PAK"})

VAR MEASURE VALUE = COUNTA('batting card'[strikeRate])

RETURN MEASURE VALUE - BASELINE VALUE

The screenshot shows the Power BI Desktop interface with the 'Measure tools' tab selected. A calculated column is being defined:

```

1 Count of strikeRate difference from INDIA v PAK =
2 VAR __BASELINE_VALUE =
3   CALCULATE(
4     COUNTA('batting_card'[strikeRate]),
5     details[match_name] IN { "INDIA v PAK" }
6   )
7 VAR __MEASURE_VALUE = COUNTA('batting_card'[strikeRate])
8 RETURN
9 __MEASURE_VALUE - __BASELINE_VALUE
  
```

The resulting table contains 78 rows of cricket match data. The Fields pane on the right lists various columns and measures, including 'Count of strikeRate difference from INDIA v PAK'.

Figure 2.20 Creating Calculated column

**STEP 7****1. Calculating maximum of strike rate by using the following formula.**

$$\text{MAX SRIKE} = \text{MAX}(\text{batting\_card}[\text{strikeRate}])$$

The screenshot shows the Power BI Desktop interface with the 'Measure tools' tab selected. A measure named 'MAX SRIKE' is being defined:

```

1 MAX SRIKE = MAX(batting_card[strikeRate])
  
```

The resulting table contains 78 rows of cricket match data. The Fields pane on the right lists various columns and measures, including 'MAX SRIKE'.

Figure 2.21 Calculating maximum of strike rate

## CHAPTER 3

### DATA ANALYSIS AND INTERPRETATION

#### 3..1 Data Analysis

To turn raw data into insightful information, data analysis is the process of analyzing, manipulating, and monitoring. Making the necessary decisions for a business or company's growth is made easier with the use of data insights. Deep data analysis is crucial if need want to manage a firm that is data-driven. Then it is needed to find learning different Power BI data analysis approaches fascinating and useful.

Data analysis includes the following results

- Used to create various charts from Power Bi visuals
- Select datas from various tables, analyse it and convert it into visuals.
- From the analysed result infer the result or final solution.

#### 1.Count number of cities all the matches take place?

- i. Select table batting card.
- ii. Include calculated measure “COUNT NUMBER OF CITIES”
- iii. Then select **card chart** for visualization.

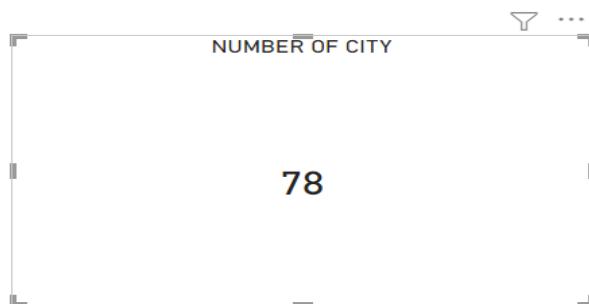


Figure 3.1 Number of cities

## 2. Display number of boundaries by team captains?

- i. Select table summary.
- ii. Include “HOME BOUNDARIES”, “HOME TEAM CAPTAIN”, “HOME TEAM”
- iii. Then select **stacked bar chart** for visualization.

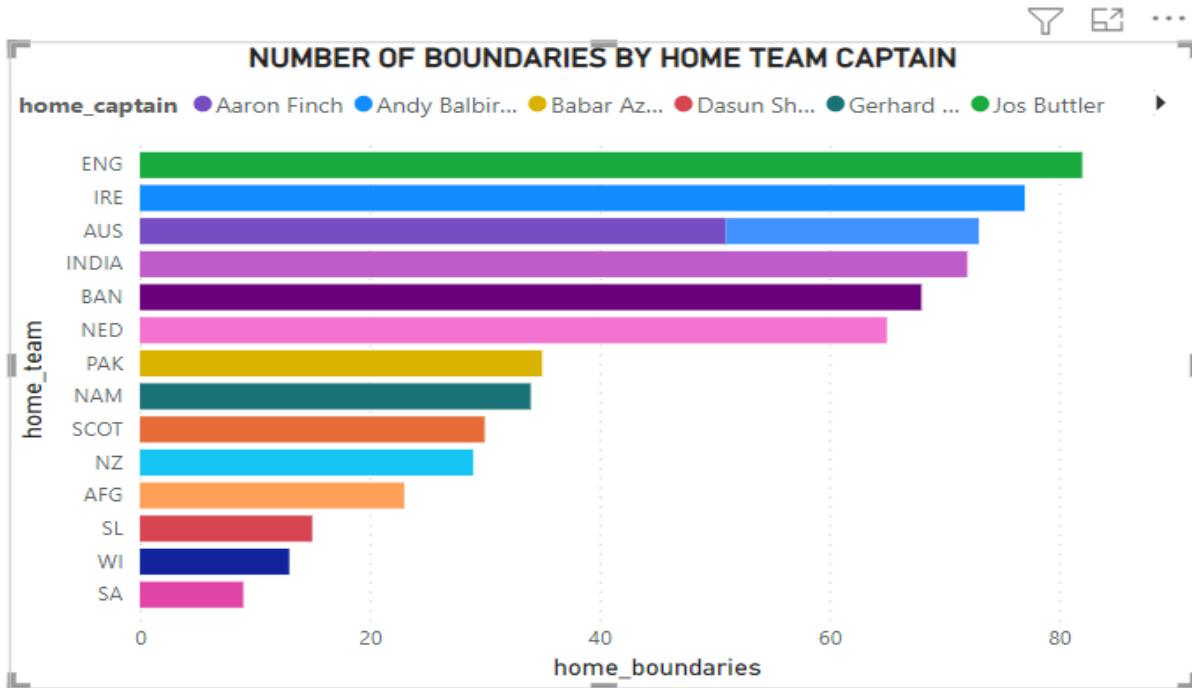


Figure 3.2 Boundaries by Home Captains

## 3. Count all the venues where the matches take place?

- i. Select table batting card.
- ii. Include calculated measure “COUNT VENUE”
- iii. Then select **card chart** for visualization.

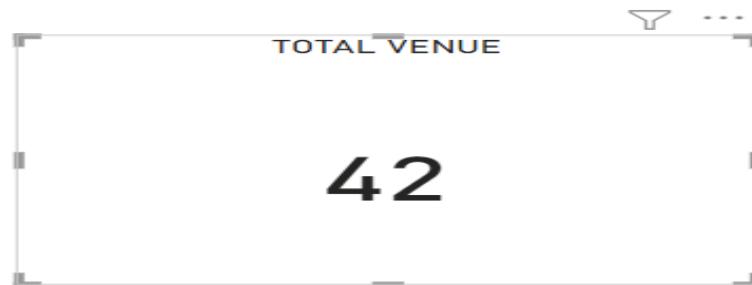


Figure 3.3 Count of Total venues

#### 4. Who are top 3 players and their strike rates?

- i. Select table batting card.
- ii. Include calculated measure “MAXIMUM STRIKE RATE”, then “FULL NAME”, “STRIKE RATE”.
- iii. Then select **stacked column chart** for visualization.

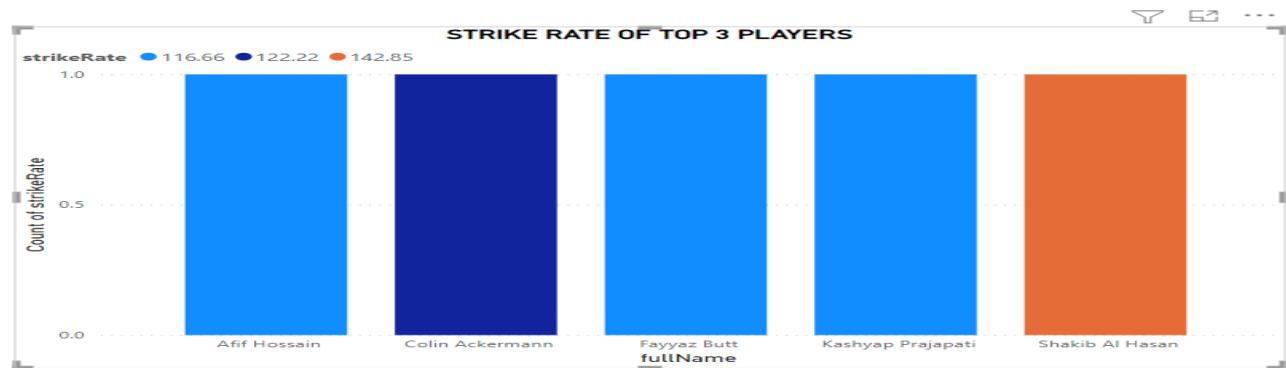


Figure 3.4 Top 3 Players strike rate

#### 5. Display 1st inning and 2nd inning score of all teams at all stadium?

- i. Select table summary.
- ii. Include “1ST INNING SCORE”, “2<sup>ND</sup> INNING SCORE”, “NAME” columns.
- iii. Then select **clustered column chart** for visualization.
- iv. It will display the teams that battled each other in match and which team scored high runs and which team scored less runs respectively.

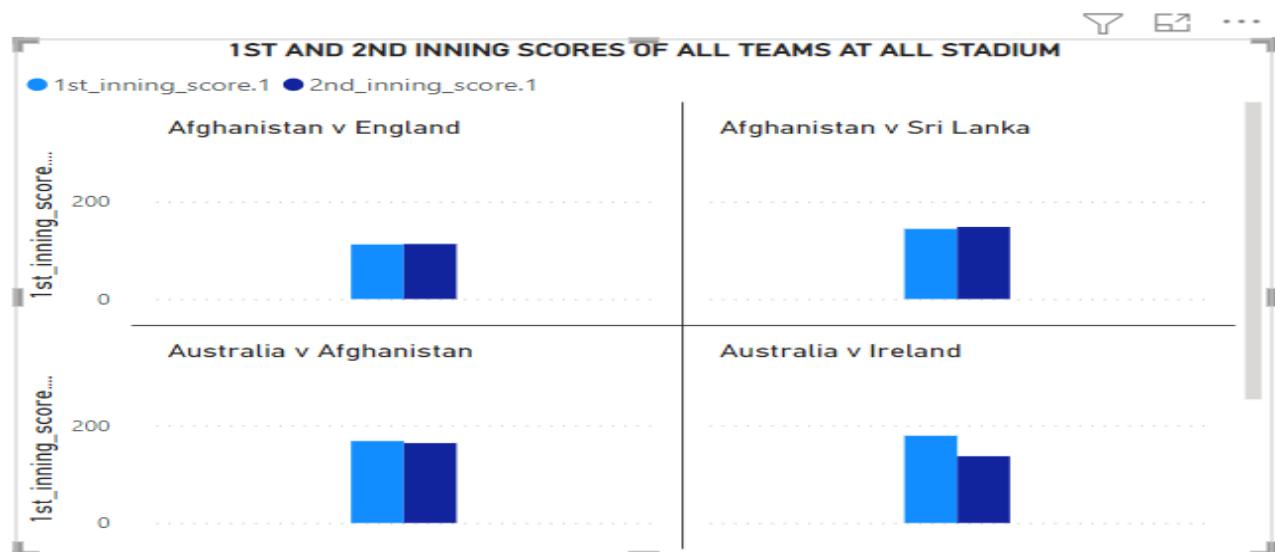


Figure 3.5 1<sup>ST</sup> and 2<sup>ND</sup> Inning score

## 6. Visualize maximum fours and sixes by all players?

- i. Select table batting card.
- ii. Include “FOURS”, “SIXES”, “NAME” columns.
- iii. Then change sixes and fours to Maximum by right clicking each column and select maximum or can create measures for it.
- iv. Then **select clustered column chart** for visualization.

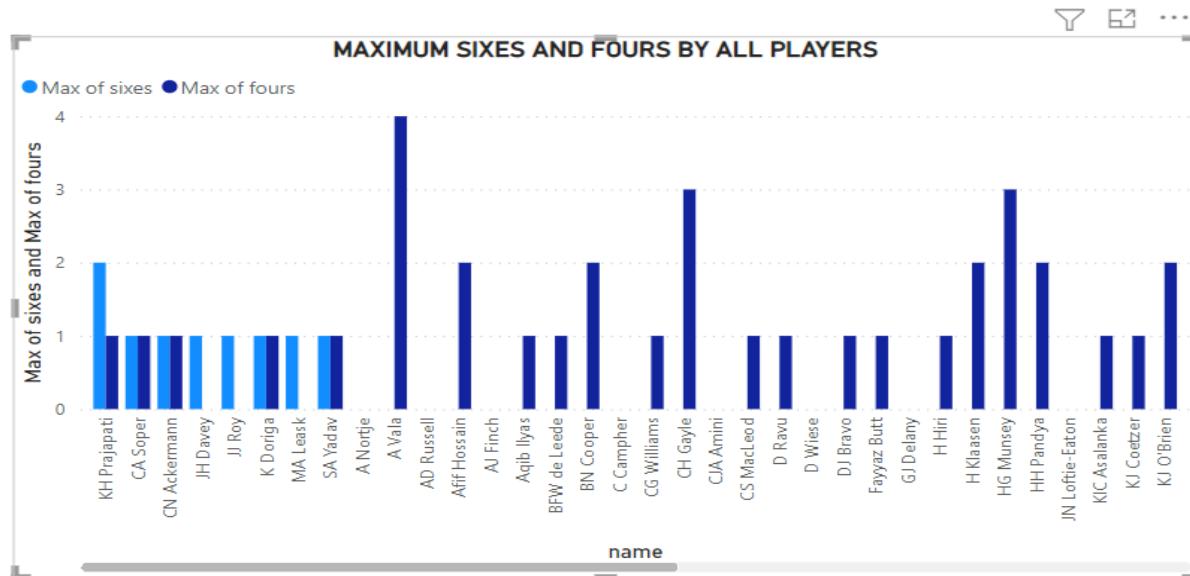


Figure 3.6 Maximum fours and sixes

## 7. Display maximum runs of top 3 players?

- i. Select table batting card.
- ii. Include calculated measure “MAXIMUM RUNS”
- iii. Then select **stacked column chart** for visualization.



Figure 3.7 Top 3 players of maximum runs

## 8. Visualize the all the balls faced by each player?

- i. Select table batting card.
- ii. Include calculated measure “BALLS FACED”, “FULLNAME”, “MATCH NAME”.
- iii. Then chart select stacked column for visualization.

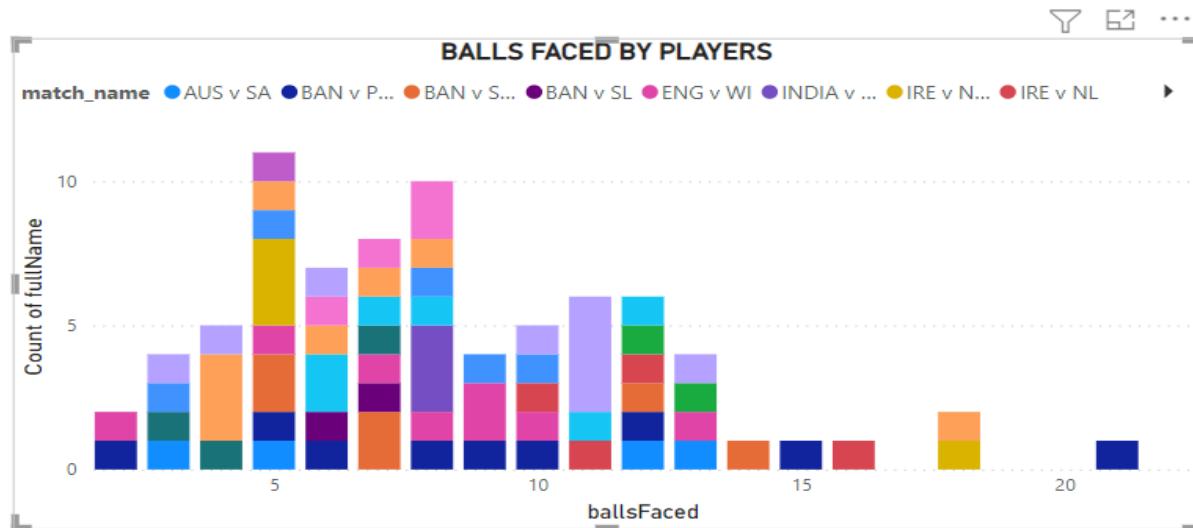


Figure 3.8 Balls faced by each player

## 9. Visualize the winners list with team names?

- i. Select table summary.
- ii. Include “SHORT NAME”, “SEASON”, “WINNER”.
- iii. Then select **table chart** for visualization.

The table chart displays the results of various cricket matches in the 2022 season. The columns represent the season, short name of the teams, and the winning team. The data shows that Australia (AUS) won 10 matches, while India (INDIA) and England (ENG) each won 4 matches. Other winners include Bangladesh (BAN), Sri Lanka (SL), New Zealand (NZ), Pakistan (PAK), and Ireland (IRE).

season	short_name	winner
2022	AUS v AFG	AUS
2022	AUS v IRE	AUS
2022	AUS v SL	AUS
2022	BAN v NED	BAN
2022	BAN v ZIM	BAN
2022	AFG v ENG	ENG
2022	ENG v INDIA	ENG
2022	ENG v NZ	ENG
2022	ENG v PAK	ENG
2022	ENG v SL	ENG
2022	BAN v INDIA	INDIA
2022	INDIA v NED	INDIA
2022	INDIA v PAK	INDIA
2022	INDIA v ZIM	INDIA
2022	ENG v IRE	IRE
2022	IRE v SCOT	IRE

Figure 3.9 Winner list

## 10. Count the number of times each team won the toss?

- i. Select table summary.
- ii. Include calculated measure “TOSS WON”
- iii. Then select **bar chart** for visualization.

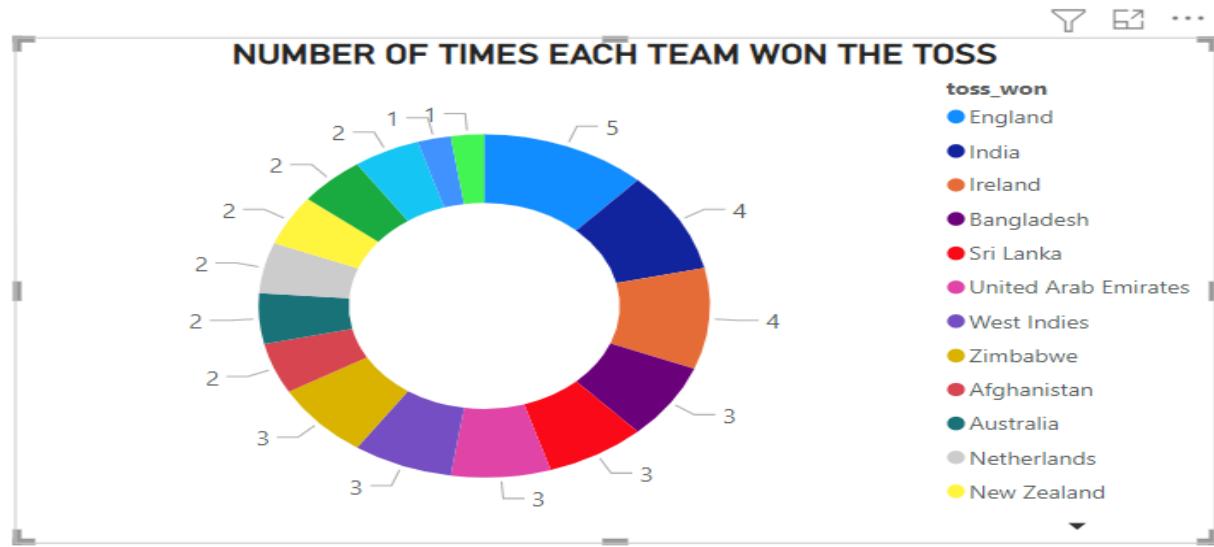


Figure 3.10 Toss won

## 11. Visualize which team won most of the times?

- i. Select table summary.
- ii. Include “WINNER” column, then make winner column right click and make it as count and maximum,
- iii. Then select ribbon chart for visualization.

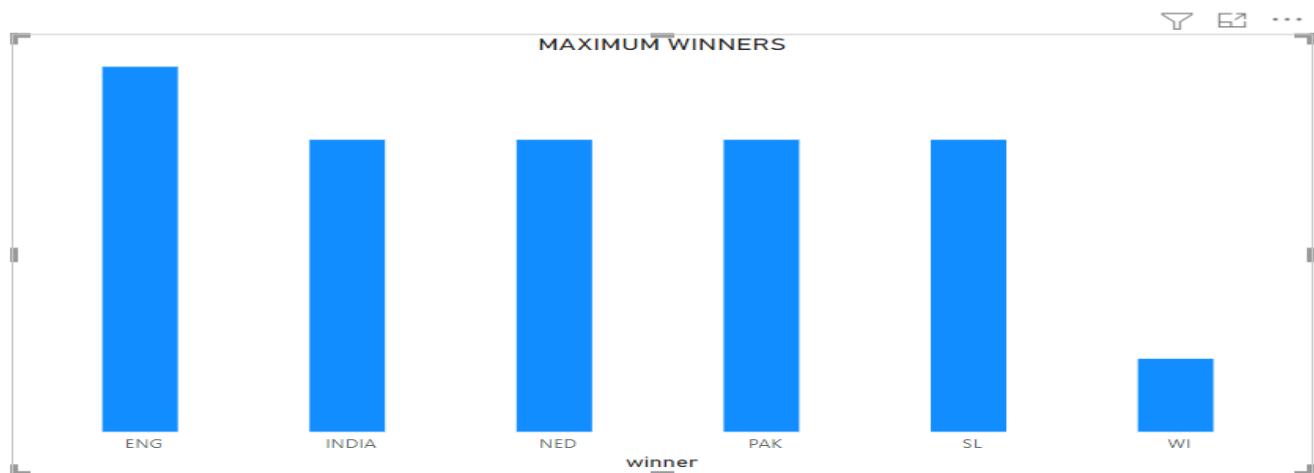


Figure 3.11 Maximum winner

## 12. Compare the wickets taken by away team and home team?

- i. Select table summary.
- ii. Include “AWAY WICKETS”, “HOME WICKETS”, “NAME”
- iii. Then select clustered column chart for visualization.

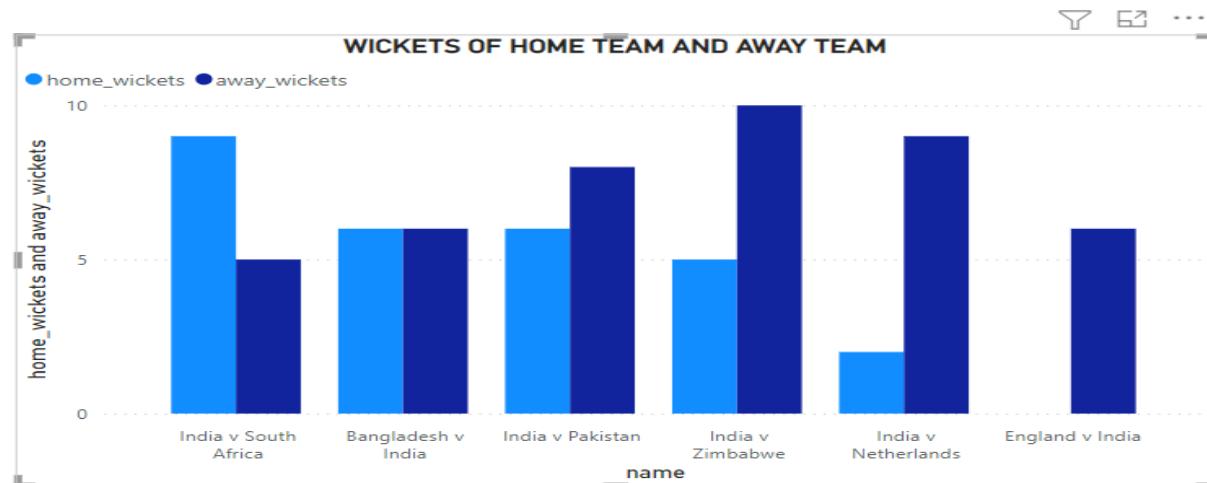


Figure 3.12 Home team and away team wickets

## 13. Visualize the boundaries, no balls, retire hurt and wides in every over?

- i. Select table details.
- ii. Include “BALLS”, “ISBOUNDARY”, “ISNOBALL”, ISRETIREDHURT”, “ISWIDES”.
- iii. Then select stacked column chart for visualization.

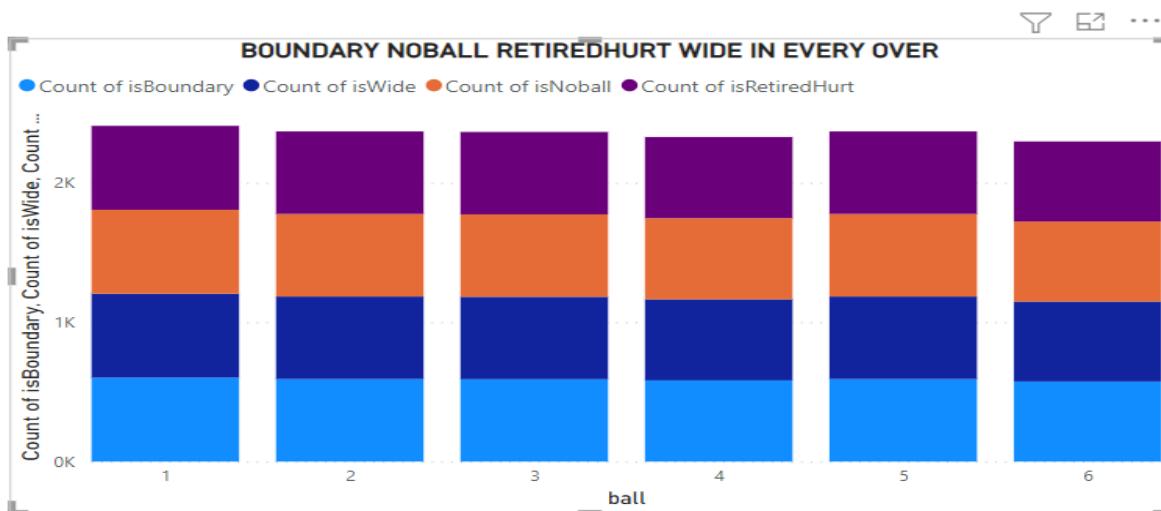


Figure 3.13 Boundary, No ball, Retired hurt, Wides

## 14. Visualize the wickets taken by each player?

- i. Select table bowling card.
- ii. Include “WICKETS”
- iii. Then select stacked column chart for visualization.
- iv. Then from Bowling cars select FULLNAME and add it to slicer chart for visualization.

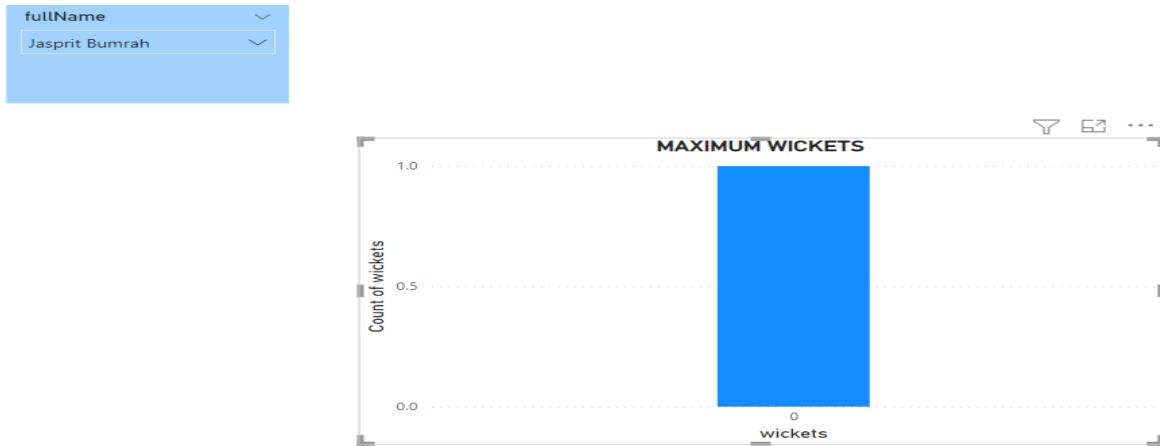


Figure 3.14 Maximum wickets

## 15. What is the economy rate and wides of each bowler?

- i. Select table bowling card.
- ii. Include “ECONOMY RATE”, “WIDES”
- iii. Then select clustered column chart for visualization.
- iv. Then use the previously created slicer for selecting each player name.

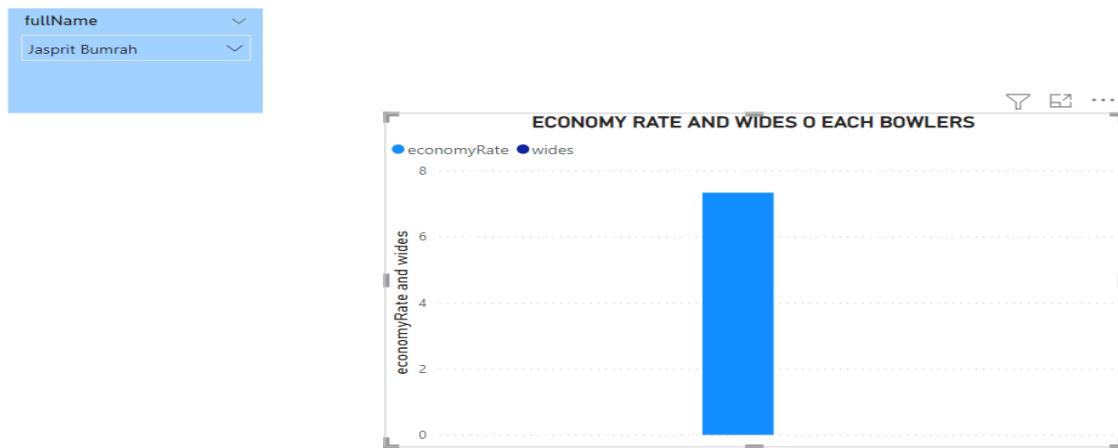


Figure 3.15 Economy rate

## 16. Count the number of overs faced by each player?

- i. Select table bowling card.
- ii. Include “OVERS”.
- iii. Then select card chart for visualization.
- iv. Then use the previously created slicer for selecting each player name.



Figure 3.16 Total overs faced

## 17. Visualize the wickets, wides and no balls by each player?

- i. Select table bowling card.
- ii. Include “NOBALLS”, “WIDES”, “WICKETS”.
- iii. Then select clustered column chart for visualization.
- iv. Then use the previously created slicer for selecting each player name.

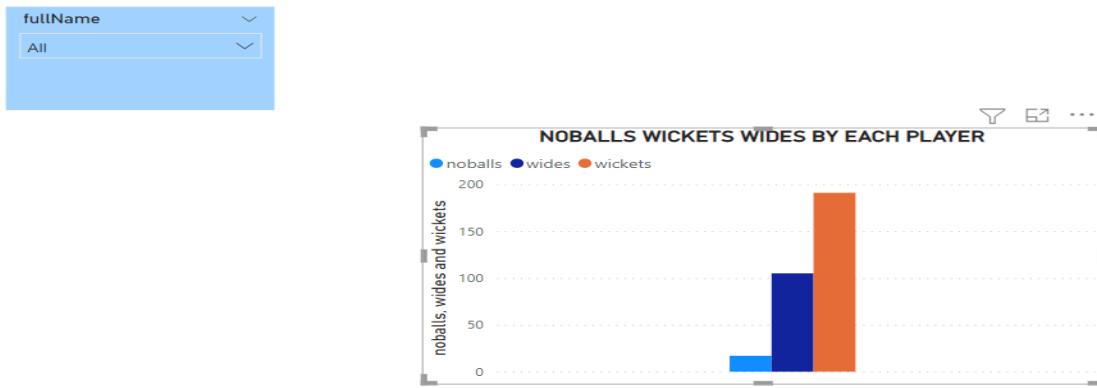


Figure 3.17 No balls, Wides, Wickets

## 18. Count the players who comes under each category of time taken by them?

- i. Select table batting card.
- ii. Include “FULL NAME”, “MINUTES”
- iii. Then select donut chart for visualization.
- iv. Then use the previously created slicer for selecting each player name.

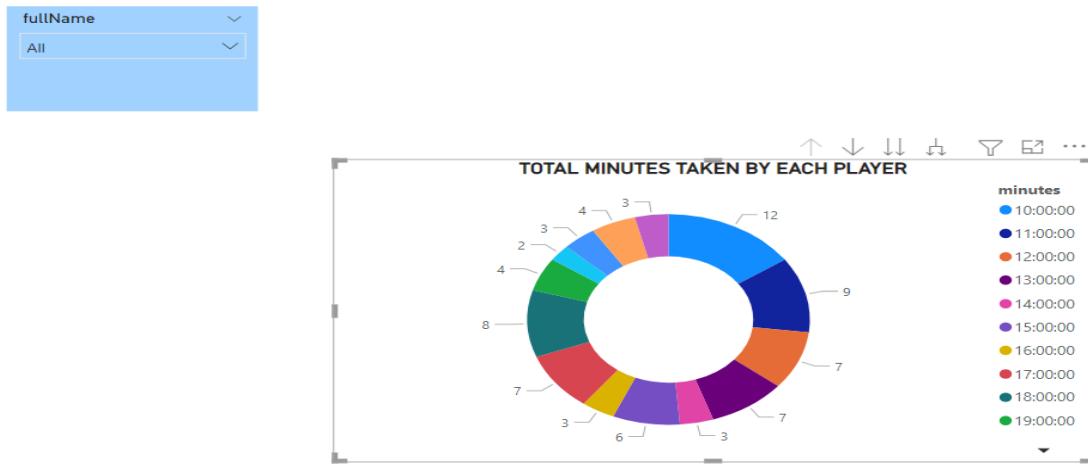


Figure 3.18 Total minutes taken

## 19. Count the total matches that takes place in season 2022?

- i. Select table summary.
- ii. Include “SHORT NAME”.
- iii. Then select card chart for visualization.

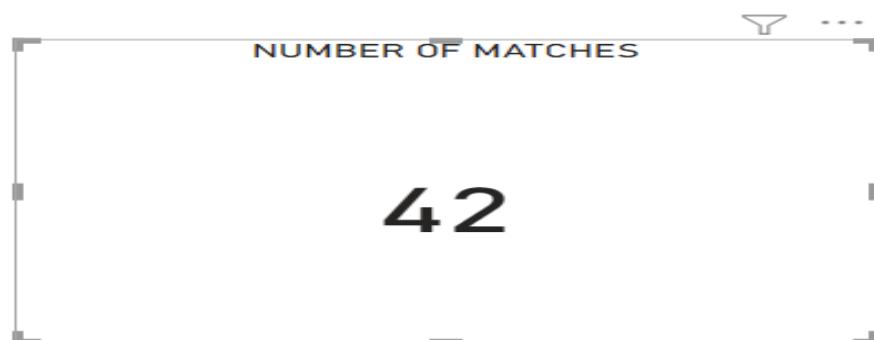


Figure 3.19 Number of matches

## 20. Visualize the runs scored by captains of all teams?

- i. Select table summary.
- ii. Include “AWAY CAPTAIN”, “AWAY RUNS”, “HOME CAPTAIN”, “HOME RUNS”.
- iii. Then select clustered column chart for visualization.
- iv. Then from same table select “HOME CAPTAIN”, “AWAY CAPTAIN” and add them into slicer for selecting each captain.

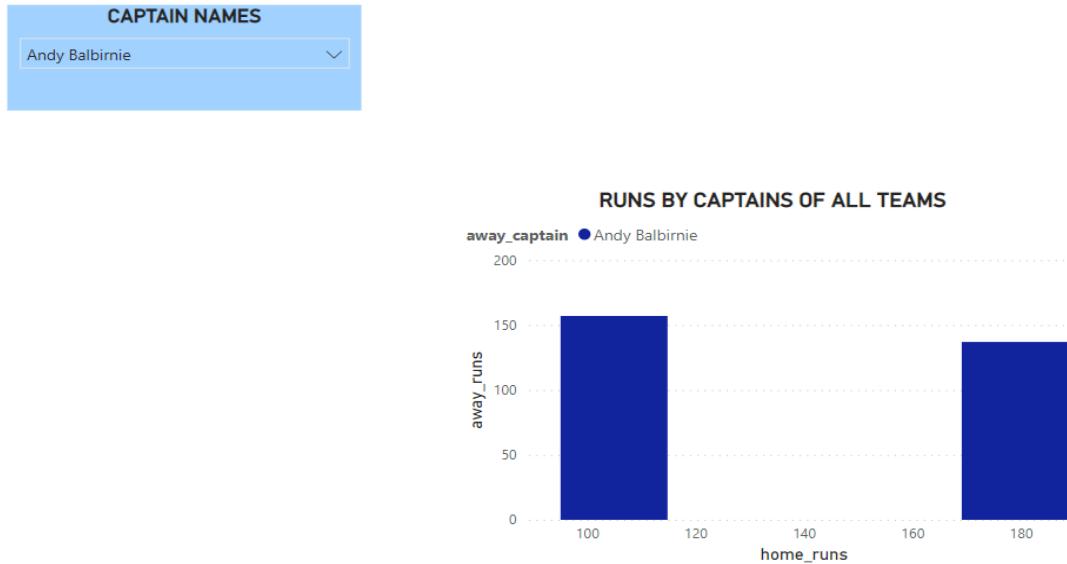


Figure 3.20 Runs by team captains

## 3.2 PUBLISHING DASHBOARD

- ❖ Often referred to as a canvas, a Power BI dashboard is a single page that employs visuals to convey a story. A well-designed dashboard only includes the key components of the tale because it is only one page long. The dashboard's tiles—the visuals you see there—are placed there by report creators.
- ❖ The report page where the visualisation was made is often the page you land on after picking a tile. A dashboard's visuals are derived from reports, and each report is built using a single dataset. A dashboard may really be thought of as a portal to the underlying reports and statistics.
- ❖ Then it may get the report that was used to produce a visualisation by selecting Dashboards are an excellent method to keep an eye on your company, search for solutions, and quickly view all of your most crucial indicators.

- ❖ A dashboard's visualisations might be drawn from a single underlying dataset or several, as well as a single underlying report or many.
- ❖ Regardless of where the data is stored, a dashboard may mix on-premises and cloud data to provide a consolidated picture. A dashboard is interactive, and the tiles refresh as the underlying data changes. It is more than simply a lovely picture.

## Link for dashboard

<https://app.powerbi.com/groups/me/dashboards/e61ccf57-3a3c-4ac1-a7f1-122a0915eda3>

## Process of creating Dash board

### STEP 1

1. Open Power Bi serviced in web browser.
2. From that interface click on get data at the left bottom.
3. Select import data from device or local disk.
4. Then import the created Power Bo file of T20 World cup 2022.

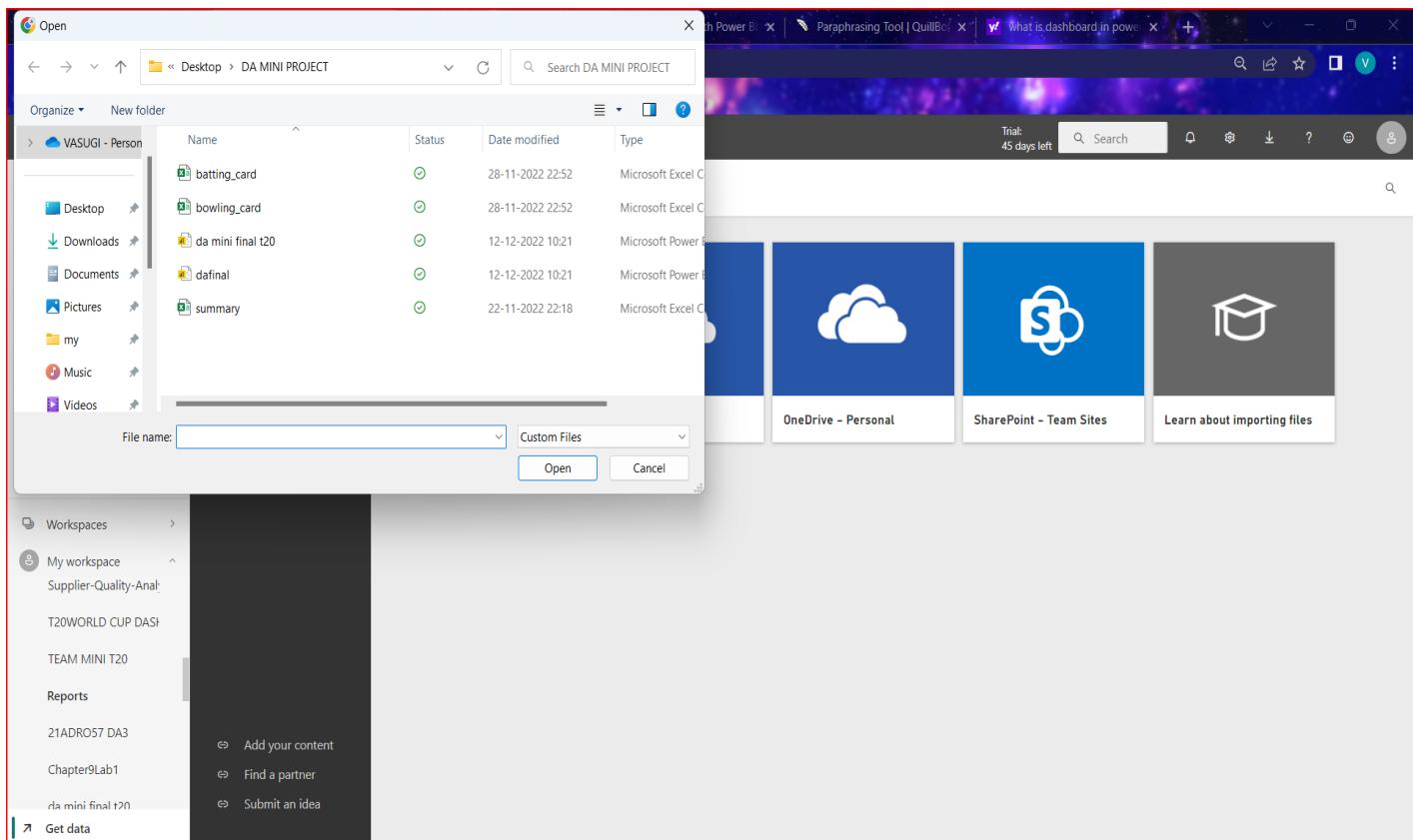


Figure 3.21 Importing dash board

## STEP 2

1. Now select visuals from Power Bi file created and imported to dashboard.
2. Create new dashboard named “T20 WORLD CUP DASHBOARD”.
3. Then pin them to the dashboard.

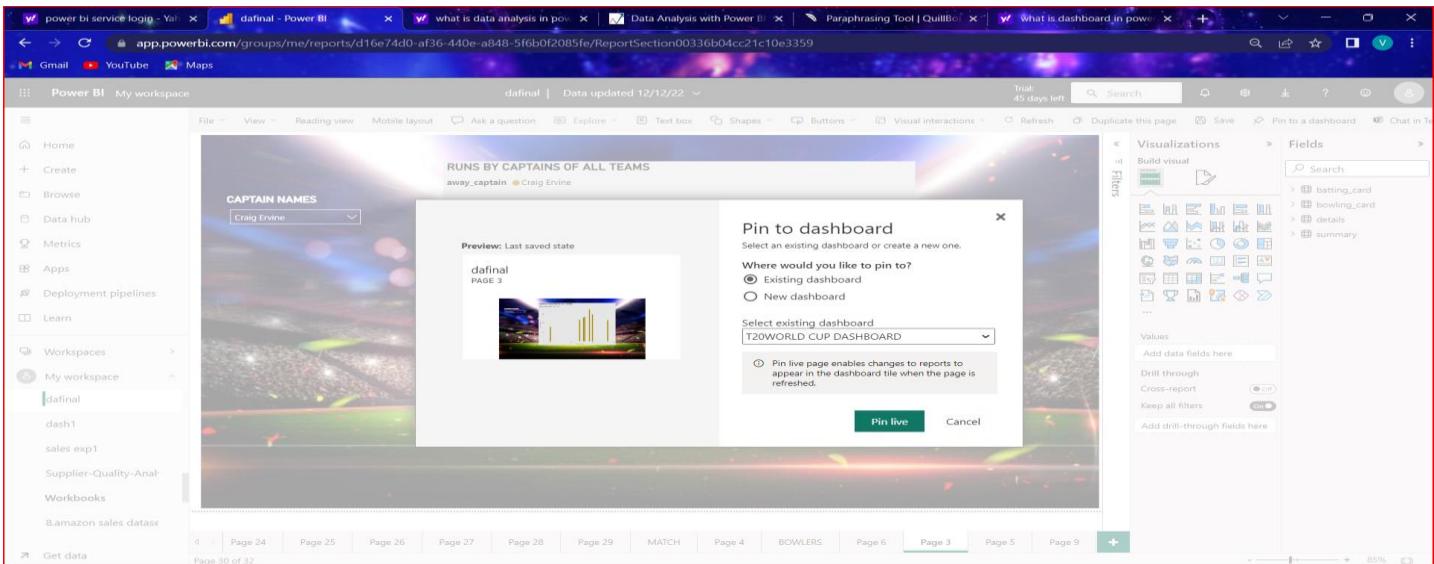


Figure 3.22 Creating new dashboard

## DASH BOARD VIEW OF BATSMAN



Figure 3.23 Batsman dashboard

## DASH BOARD VIEW OF BOWLERS

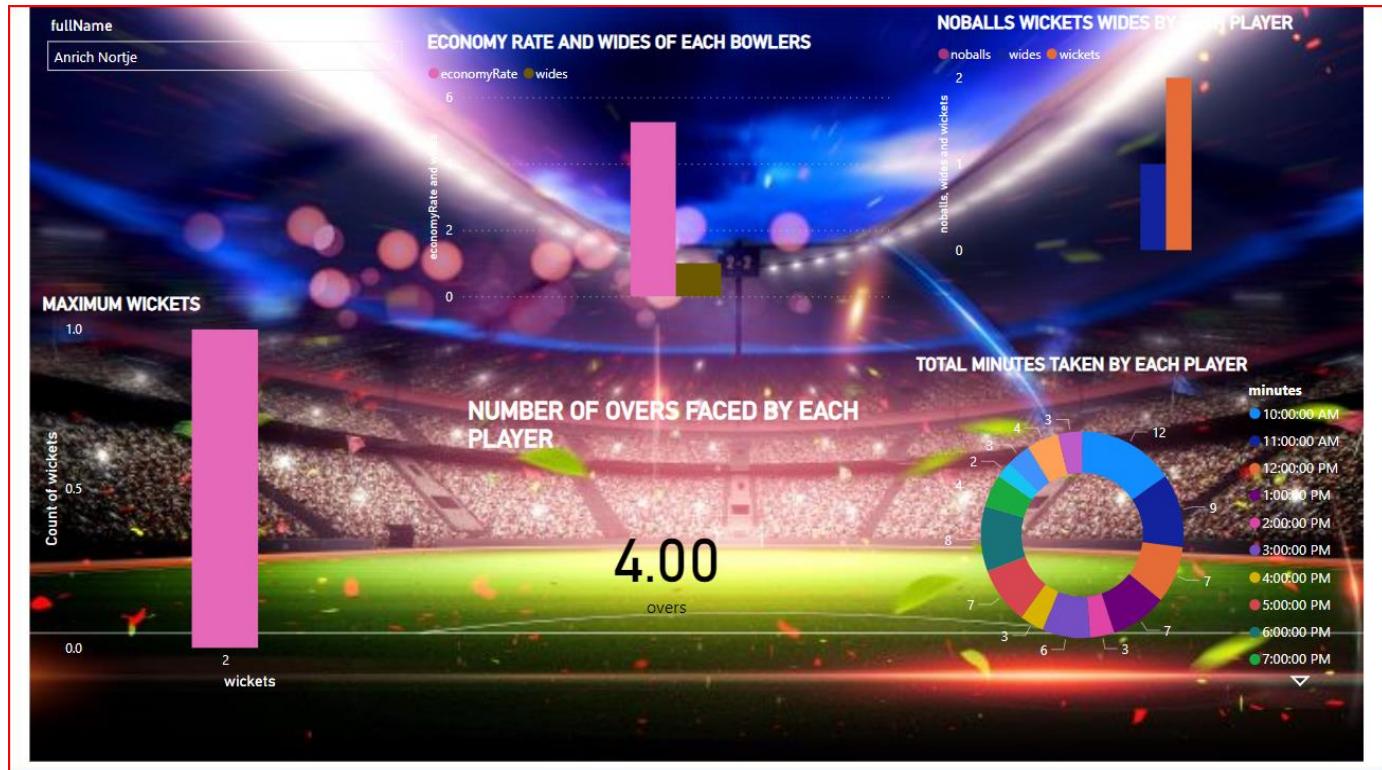


Figure 3.24 Bowlers dashboard

## DASH BOARD VIEW OF RUNS SCORED BY EACH TEAM CAPTAINS

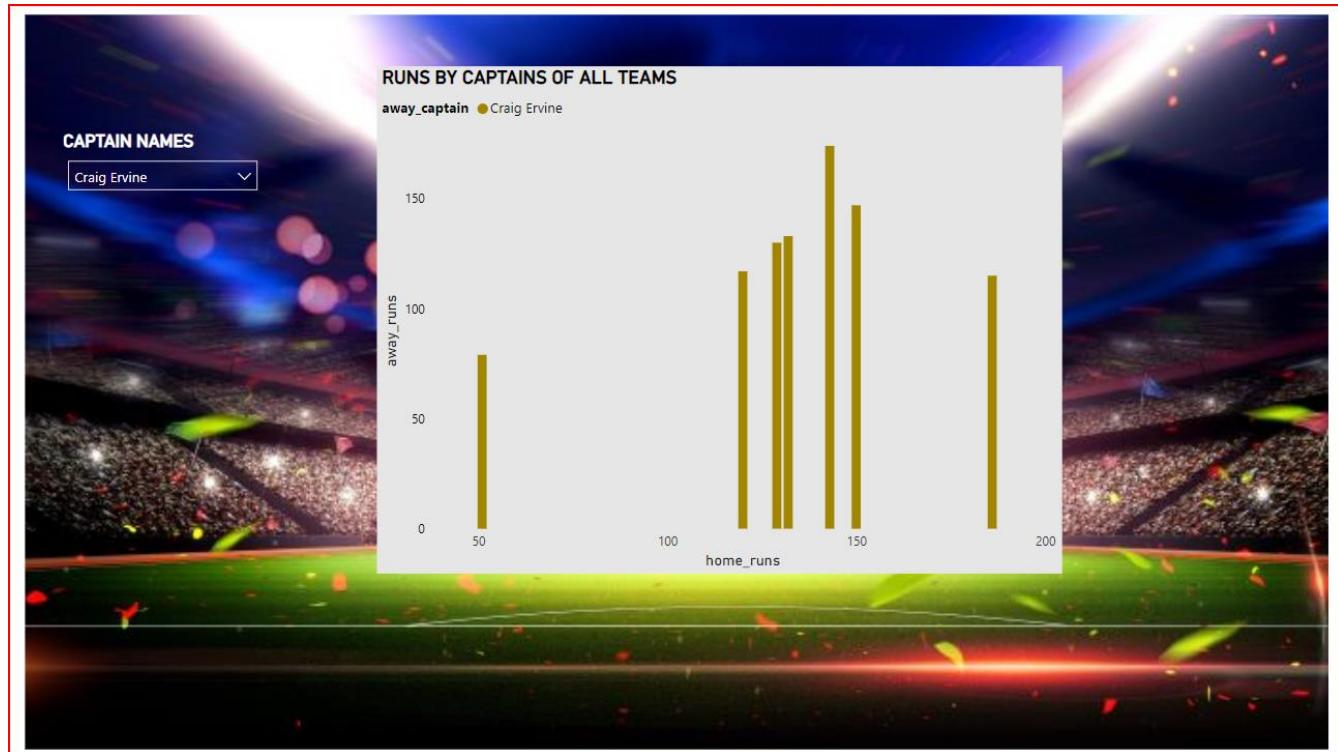


Figure 3.25 Runs scored by each team

### 3.3 INFERENCES

#### 1. Count number of cities all the matches take place?

Total number of cities is 78.

#### 2. Display number of boundaries by team captains?

Number of boundaries by home captain

1. ENGLAND - 82
2. IRELAND - 77
3. AUSTRALIA - 73
4. INDIA - 72
5. BANGLADESH - 68
6. NETHERLANDS - 65
7. PAKISTAN - 35
8. ZIMBHAVEY - 34
9. SCOTLAND - 30
10. NEWZLAND - 29
11. AFGHANISTHAN - 23
12. SRILANKA - 15
13. WEST INDIES - 13
14. SOUTH AFRICA - 9

#### 3. Count all the venues where the matches take place?

Total venues are 42 all over the world.

#### 4. Who are top 3 players and their strike rates?

Top 3 players based on strike rate is:

1. AFIA HOSSAIN
2. COLIN ACKERMANN
3. FAYYAZ BUTT

#### 5. Display 1st inning and 2nd inning score of all teams at all stadium?

1<sup>ST</sup> inning and 2<sup>ND</sup> inning score of all teams at all teams are displayed using column chart successfully.

**6. Visualize maximum fours and sixes by all players?**

Maximum fours by A VALA

Maximum sixes by K H PRAJAPATHI

**7. Display maximum runs of top 3 players?**

Top 3 players by maximum runs are

- 1.COLIN ACKERMAN
- 2.CRAING WILLIAMSON
- 3.HARDIK PANDYA

**8. Visualize the all the balls faced by each player?**

Total balls faced by each player were displayed successfully.

**9. Visualize the winners list with team names?**

Thus, the winners list of all matches is displayed successfully.

**10. Count the number of times each team won the toss?**

1. AUSTRALIA 3 TIMES
2. BANGLADESH 2 TIMES
3. ENGLAND 5 TIMES
4. INDIA 4 TIMES
5. IRELAND 3 TIMES
6. ZIMBHAVE 4 TIMES
7. NETHERLAND 4 TIMES
8. NEWZELAND 3 TIMES
9. PAKISTAN 4 TIMES
10. SCOTLAND 1 TIMES
11. SRILANKA 4 TIMES
12. SOUTH AFRICA 3 TIMES

13. WEST INDIES 1 TIMES

14. UAE 1 TIMES

## **11. Visualize which team won most of the times?**

Number of times each team won the toss

1. 1. AUSTRALIA 2 TIMES
2. BANGLADESH 3 TIMES
3. ENGLAND 5 TIMES
4. INDIA 4 TIMES
5. IRELAND 4 TIMES
6. ZIMBABWE 3 TIMES
7. NETHERLAND 2 TIMES
8. NEWZELAND 2 TIMES
9. PAKISTAN 1 TIMES
10. SCOTLAND 2 TIMES
11. SRILANKA 3 TIMES
12. SOUTH AFRICA 2 TIMES
13. WEST INDIES 3 TIMES
14. UAE 3 TIMES

❖ The team ENGLAND won the most of the matches.

## **12. Compare the wickets taken by away team and home team?**

Thus, the wickets taken by home team and away team are compared and visualized successfully by using column chart successfully in figure 2.3.12.

## **13. Visualize the boundaries, no balls, retire hurt and wides in every over?**

Thus, the number of boundaries, number of no balls, number of retire hurts and number if each bowler is visualised.

## **14. Visualize the wickets taken by each player?**

Maximum wickets taken by each player is visualized and a slicer is used for selecting each player.

## **15. What is the economy rate and wides of each bowler?**

Economy rate and wides taken by each player is visualized and a slicer is used for selecting each player.

## **16. Count the number of overs faced by each player?**

Total number of overs faced by each player is 566.80 overs by all bowlers and batsman.

## **17. Visualize the wickets, wides and no balls by each player?**

Number of wickets, no balls and wides taken by each player is visualized and a slicer is used for selecting each player.

## **18. Count the players who comes under each category of time taken by them?**

Total minutes taken by each player in cricket ground is visualised by RIBBION chart successfully.

## **19. Count the total matches that takes place in season 2022?**

Total number of matches is 45 but only, 42 matches take places and 3 matches abandoned due to rain.

## **20. Visualize the runs scored by captains of all teams?**

Thus, the runs scored by captains of each team is visualised successfully and a slicer is used for selecting particular captain.

### **INFERENCE OF DASH BOARD:**

- Finally, Dash board is created by using the POWER BI services and is visualised under the name of T20 WORLD CUP DASHBOARD.
- All three different dashboards are pinned to a common dashboard.
- It contains three dashboards namely “bowler”, “batsman”, “runs by each team” and they are visualised in a single dashboard successfully.
- Bowler dashboard contains details of bowlers.
- Batsman dashboard contain details of batsman.
- In Runs scored dashboard it indicates both home team and Away team scores and their details.

## CHAPTER 4

### CONCLUSION AND FUTURE WORK

#### 4.1 RECOMMENDATIONS

The analysis of cricket matches is very difficult because it contains huge amount of information about matches so it is very important to visualize the necessary details about the matches clearly and simply to the public.

Many uneducated people are also very interested in watching cricket so visualizing the details will help them to analyze the match easily. KPIs may be easily tracked against predefined targets using Power BI Goals.

A business user can use it to centralize measurements and significant company goals so they can track their progress. In addition, it promotes cooperation and interaction on the site while being simple to use and aesthetically pleasing.

In the modern world people are very busy with their duties so they don't have enough time to look into the entertainment especially looking into cricket score and analysis takes more time so it is necessary to summarize all the events that happened in a cricket needed to be visualized attractively and understand to everyone easily.

So, for this purpose it is necessary to prepare dashboard. Power BI is a tool that helps users easily visualize dynamic and interactive Reports/Dashboards by utilizing its Business Intelligence Capabilities. Power BI is a tool that makes decision-making easier as it offers a wide range of interactive visualizations along with Business Intelligence Capabilities.

A business user can use it to centralize measurements and significant company goals so they can track their progress. In addition, it promotes cooperation and interaction on the site while being simple to use and aesthetically pleasing.

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